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**Developing stem cell therapies for juvenile and adult-onset Huntington's disease.**

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**Funding Grants:** MSC engineered to produce BDNF for the treatment of Huntington's disease

**Public Summary:**

Stem cell therapies have been explored as a new avenue for the treatment of neurologic disease and damage within the CNS in part due to their native ability to mimic repair mechanisms in the brain. Mesenchymal stem cells have been of particular clinical interest due to their ability to release beneficial neurotrophic factors and their ability to foster a neuroprotective microenvironment. While early stem cell transplantation therapies have been fraught with technical and political concerns as well as limited clinical benefits, mesenchymal stem cell therapies have been shown to be clinically beneficial and derivable from nonembryonic, adult sources. The focus of this review will be on emerging and extant stem cell therapies for juvenile and adult-onset Huntington's disease.

**Scientific Abstract:**

Stem cell therapies have been explored as a new avenue for the treatment of neurologic disease and damage within the CNS in part due to their native ability to mimic repair mechanisms in the brain. Mesenchymal stem cells have been of particular clinical interest due to their ability to release beneficial neurotrophic factors and their ability to foster a neuroprotective microenvironment. While early stem cell transplantation therapies have been fraught with technical and political concerns as well as limited clinical benefits, mesenchymal stem cell therapies have been shown to be clinically beneficial and derivable from nonembryonic, adult sources. The focus of this review will be on emerging and extant stem cell therapies for juvenile and adult-onset Huntington's disease.

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